

REMARKS

Reexamination and reconsideration of the application as amended are requested. Support for the rigidly threadably attached and rigidly-wheel-bearing-engaging language is found from figure 2 and from page 5, lines 7-14 of the specification wherein it is stated that the bolt head 42 is seated against the spindle 32 and that torque is applied to secure the wheel stud 16 to the spindle 32. Additional support for the rigidly attached language is found from figures 1 and 2 and from page 6, lines 3-9 of the specification wherein it is stated that, in one modification, tightening a wheel stud 16 will tighten the threaded attachment of the wheel stud 16 to the rotatable section 18 of the wheel bearing 10.

The examiner's rejection of claims 1-20 as being "obvious", under 35 U.S.C. 103, is respectfully traversed. The examiner rejects these claims as being unpatentable over Kessen '370 in view of Wierzchon '526 and/or as being unpatentable over Wierzchon in view of Kessen. Claims 2-6 depend from claim 1, claims 9-13 depend from claim 8, and claims 15-19 depend from claim 14. Claims 1, 7 and 8 require the first external threads 28 of the first portion 24 of the wheel stud 16 of the vehicle wheel bearing 10 to be rigidly threadably attached to the internal threads 22 of the hole 20 of the rotatable section 14 of the vehicle wheel bearing 10 (or of the through hole 36 of the flange 14 of the spindle 32). Claims 14 and 20 require the first portion 24 of the wheel stud 16 to have rigidly-wheel-bearing-engaging first external threads 28. The wheel stud 20 of Kessen is press-fitted to the spindle 12 of the wheel bearing 10 (see column 3, lines 27-46). Wierzchon describes a method which loosely retains (by deformation of a threaded attachment) a stud to a first member while allowing the stud to pivot, which then pivots the stud shaft to engage an opening in a second member, which next passes the stud shaft through the opening, and which finally threadably engages a nut on the stud shaft to attach the second member to the first member. The method of Wierzchon pivotally threadably attaches the stud and does not rigidly threadably attach the stud as required by applicants' claims. The teaching of Wierzchon is of a pivotal threaded attachment "to offset the effect of manufacturing tolerances by providing a non-rigid stud and yet assure that a stud remains connected" (see column 1, line 32 to column 2, line 2 and especially column 1, lines 32-34). There is no suggestion in

Wierzchon of a rigid threaded attachment which would defeat the purpose of the Wierzchon invention.

The examiner states that the Wierzchon stud attachment reduces stress as a reason to substitute the Wierzchon pivotal stud attachment for the press-fitted stud attachment of Kessen. The problem of stress is mentioned in Wierzchon when there are alignment problems due to manufacturing tolerances, and Wierzchon solves this problem by having the threaded attachment of his stud be a pivotal threaded attachment. There is no teaching in Kessen and/or Wierzchon of any problem of vehicle wheel studs being misaligned with vehicle wheel mounting holes so as to cause stress in the spindle. Vehicle wheel mounting holes are simply made large enough so they can always be aligned with and placed on the vehicle wheel studs with room to spare, as is known to those who have changed car tires. The examiner also states that the Wierzchon stud attachment would reduce manufacturing time and cost as a reason to substitute the Wierzchon pivotal stud attachment for the press-fitted stud attachment of Kessen. There is no teaching in Kessen and/or Wierzchon that creating a pivotal stud attachment would reduce manufacturing time and cost. Also, it seems unlikely that creating a pivotal stud attachment would reduce manufacturing time and cost.

It is noted that a pivotal threaded attachment of the wheel stud would be unsuitable to use in attaching a vehicle wheel to a vehicle wheel bearing because the vehicle wheel studs must be rigidly attached to the wheel bearing, as required by applicants' claims, to allow a vehicle wheel to be conveniently mounted on four or more vehicle wheel studs. Having four or more vehicle wheel studs be pivotally mounted on the vehicle wheel bearing would make the mounting of a vehicle wheel extremely difficult and virtually impossible for one person to do alone. Mounting (including changing) a tire on a car using the stud attaching method of Wierzchon would be a real challenge at best compared to the ease of mounting offered by applicants' claimed invention.

The general rule is that a section 103 rejection based upon a modification of a reference (such as modifying the pivotally-attached brake assembly stud of Wierzchon to be rigidly attached should the examiner consider making such modification) that destroys the intent, purpose or function of the invention disclosed in the reference (such as the purpose of having the

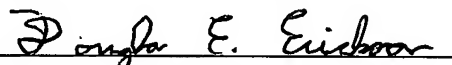
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brake assembly studs of Wierzchon be pivotal to overcome the problem of stress when there are alignment problems due to manufacturing tolerances during mounting of a master cylinder to a brake booster) is not proper and the prima facie case of obviousness cannot be properly made. In other words, where there is no technological motivation for engaging in the modification and instead a disincentive, the rejection is improper. In re Gordon, 733 F.2d 900, 902 (Fed. Cir. 1984).

Also, where the suggested combination of references would require a substantial reconstruction and redesign of the elements shown in one of the references (such as modifying the pivotally-attached brake assembly stud of Wierzchon to be rigidly attached should the examiner consider making such modification) as well as a change in the basic principles under which the construction of that reference was designed to operate (such as the purpose of having the brake assembly studs of Wierzchon be pivotal to overcome the problem of stress when there are alignment problems due to manufacturing tolerances during mounting of a master cylinder to a brake booster), the combination is not a proper ground for rejection of the claims under section 103. In re Ratti, 270 F.2d 810, 813, 123 USPQ 349, 352 (CCPA 1959).

Inasmuch as each of the rejections has been answered by the above remarks and amended claims, it is respectfully requested that the rejections be withdrawn, and that this application be passed to issue.

Respectfully submitted,

  
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